

Public Health Laboratory in Action...Pertussis

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The Hinton State Laboratory Institute Pertussis Culture & PCR Kit

- ✓ Nasopharyngeal swab
- ✓ 1% CAS solution
- ✓ Charcoal transport slant
- ✓ Empty glass screw cap tube
- ✓ Collection instructions

What does the CAS solution do?

The casamino acid cleans the swab of unwanted debris after specimen collection, and it stabilizes the microorganisms.

Why is charcoal in the transport media?

Charcoal neutralizes fatty acids found in the media. This absorption of toxic material increases the likelihood that the microorganisms will still be viable upon arrival at the Hinton State Lab Institute.

Infant pertussis outbreak emphasizes need to vaccinate health care workers

Don Murphey, MD, was quoted in American Medical News, as saying "We think it's very important that people do everything to prevent pertussis in infants, and this means immunizing teens, adults, parents of infants and people who are taking care of infants. It means immunizing health care workers." Dr. Murphey recently had an article published in the June 6 *Morbidity and Mortality Weekly Report* outlining the case of 11 infants who contracted pertussis from a health care worker. To read more, go to: www.ama-assn.org/amednews/2008/07/07/hlsb0707.htm

Culturing Pertussis: Kit Request to Test Result

In 2007, more than 7,000 pertussis culture and PCR kits were distributed. The bacteriology specimen outfit distribution department (Jacqui Hankerson, Rita Lunge-low, Charlene Phillips, and Janice Zanolli) works with the kit room staff to arrange for the shipment or pick-up of the requested bacteriology specimen outfits. Clinicians use the nasopharyngeal swabs in the pertussis culture and PCR kit to collect samples from the posterior nasopharynx.



Marie Preval carries autoclaved Bordet-Gengou media to the hood, where she will add sheep blood and oxacillin.

The swabs are then moistened in 1% casamino acid solution (CAS) and swabbed onto the surface of the charcoal transport media slant.

Upon receipt of samples, the Reference Laboratory staff transfer the sample from the charcoal transport slant to Bordet-Gengou plates with oxacillin (BGO), an antibiotic. The transport slants and BGO are prepared in Media Preparation by Richard Borsari, Marie Preval, Juanita Govan, Janice Kaczynski, and Sharon Nolan.



Suzanne Govan washes and autoclaves glassware for the entire building, including the media room staff.

How does the Reference Laboratory Test for Pertussis?

Reference Bacteriology Laboratory staff (Peter Belanger, Cynthia Condon, Caryn Conley, Taryn Crotty, Ellen Silva, and Charleen Thaice) examine the media plates after 3 to 7 days of incubation. Preliminary identification is done by gram stain and fluorescent antibody testing. Confirmatory identification is done via biochemical testing.

Each plate on the right has a different strain of *Bordetella*. Cindy Condon streaked all three isolates on the same day. The plate with heavy growth contains *B. parapertussis*, while the plate with the least growth contains *B. holmesii*. The plate in the center is *Bordetella pertussis*.

